TIMKEN

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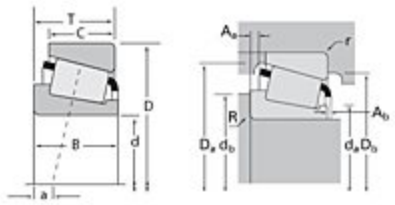
Timken Part Number 24780 - 24721, Tapered Roller Bearings - TS (Tapered Single) Imperial

This is the most basic and most widely used type of tapered roller bearing. It consists of two main separable parts: the cone (inner ring) assembly and the cup (outer ring). It is typically mounted in opposing pairs on a shaft.



Specifications | Dimensions | Abutment and Fillet Dimensions | Basic Load Ratings | Factors

Specifications

Series	24700
Cone Part Number	24780
Cup Part Number	24721
Design Units	Imperial
Bearing Weight	0.500 Kg 1.00 lb
Cage Type	Stamped Steel

Dimensions

d - Bore	41.275 mm 1.6250 in
D - Cup Outer Diameter	76.2 mm 3 in

B - Cone Width	23.020 mm 0.9063 in
C - Cup Width	20.638 mm 0.8125 in
T - Bearing Width	25.400 mm 1.0000 in

Abutment and Fillet Dimensions

R - Cone Backface "To Clear" Radius[1]	3.560 mm 0.14 in
r - Cup Backface "To Clear" Radius[2]	2.29 mm 0.090 in
da - Cone Frontface Backing Diameter	46.99 mm 1.85 in
db - Cone Backface Backing Diameter	54.10 mm 2.13 in
Da - Cup Frontface Backing Diameter	71.90 mm 2.87 in
Db - Cup Backface Backing Diameter	66.04 mm 2.60 in
Ab - Cage-Cone Frontface Clearance	1.8 mm 0.07 in
Aa - Cage-Cone Backface Clearance	0.8 mm 0.03 in
a - Effective Center Location[3]	-4.80 mm -0.19 in

Basic Load Ratings

C90 - Dynamic Radial Rating (90 million revolutions)[4]	19600 N 4400 lbf
C1 - Dynamic Radial Rating (1 million revolutions)[5]	75500 N 17000 lbf
C0 - Static Radial Rating	89200 N 20100 lbf
C_{a90} - Dynamic Thrust Rating (90 million revolutions)[6]	13200 N 2960 lbf

Factors

K - Factor[7]	1.49
e - ISO Factor[8]	0.39
Y - ISO Factor[9]	1.53
G1 - Heat Generation Factor (Roller-Raceway)	26.4
G2 - Heat Generation Factor (Rib-Roller End)	12.5
Cg - Geometry Factor	0.0767

[1] These maximum fillet radii will be cleared by the bearing corners.
[2] These maximum fillet radii will be cleared by the bearing corners.
[3] Negative value indicates effective center inside cone backface.
[4] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values.
[5] Based on 1 x 10^6 revolutions L_{10} life, for the ISO life calculation method.
[6] Based on 90 x 10^6 revolutions L_{10} life, for The Timken Company life calculation method. C_{90} and C_{a90} are radial and thrust values for a single-row, $C_{90(2)}$ is the two-row radial value.
[7] These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.
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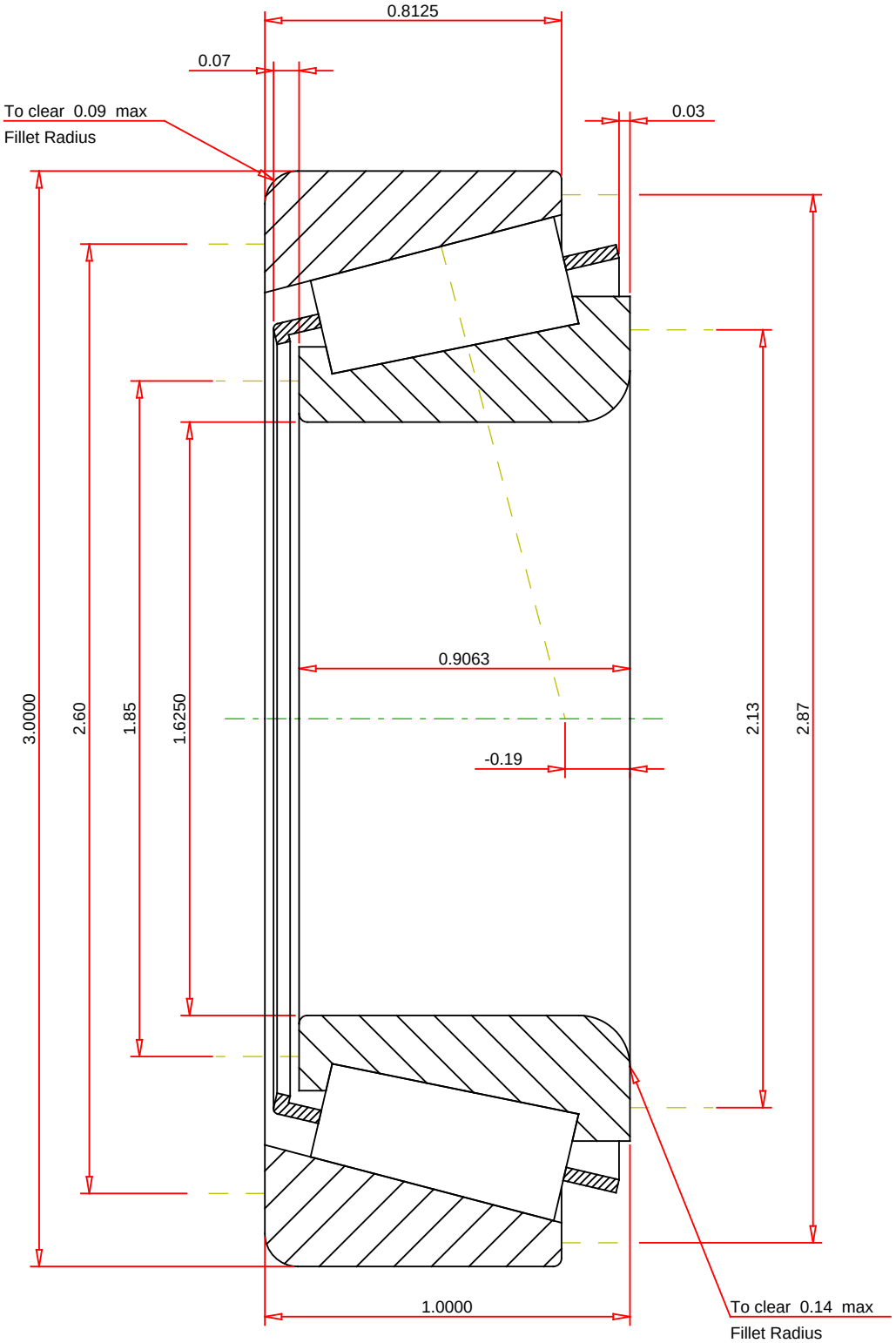

IMPERIAL UNITS

ISO Factor - e	0.39	
ISO Factor - Y	1.53	
Bearing Weight	1	lb
Number of Rollers Per Row	18	
Effective Center Location	-0.19	inch

TIMKEN®

THE TIMKEN COMPANY
NORTH CANTON, OHIO USA

24780 - 24721
TS BEARING ASSEMBLY

K Factor	1.49	
Dynamic Radial Rating - C90	19600	lbf
Dynamic Thrust Rating - Ca90	13200	lbf
Static Radial Rating - C0	89200	lbf
Dynamic Radial Rating - C1	75500	lbf

FOR DISCUSSION ONLY